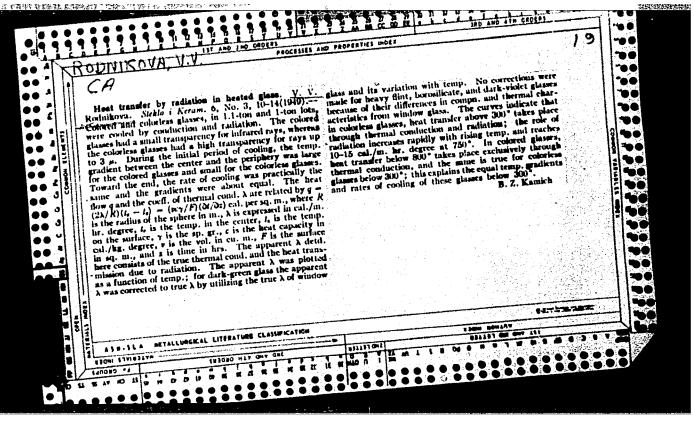
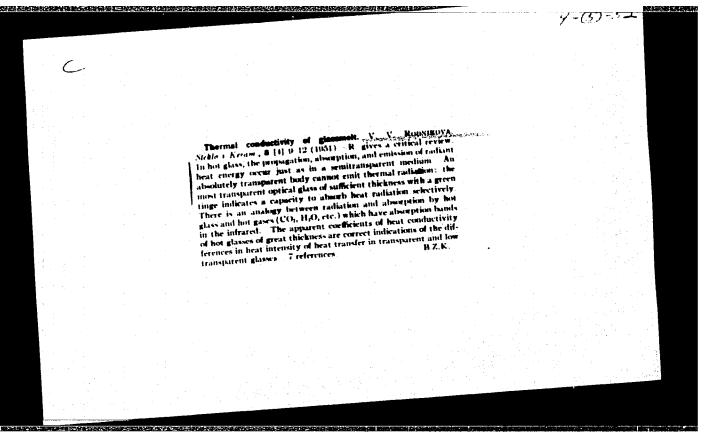
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21-55-7-18/27

AUTHORS: Lysin, B.S., Member of the AS UkrSSR, and Rodnikova, V.V.

TITLE: Investigations of the Crystallization of Stone Castings

(Issledovaniya kristallizatsii kamennogo lit'ya)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1958, Nr 7, pp 7602

763 (USSR)

ABSTRACTS: Items made of stone castings have a high strength (crushing

resistance from 3,000 to 5,000 kg per sq cm), a high chemical resistance, and important dielectric properties. The Ukrainian SSR is rich in natural rocks suitable for the manufacture of stone castings. In spite of these favorable circumstances, this promising branch of industry is not well developed. The reasons are: insufficient knowledge of physico-chemical precesses occurring during crystallization and a low stage in casting technology. Therefore, the authors investigated some processes taking place during the crystallization of stone castings, in particular of some clays, slags and silicon masses. Experiments showed that during slag crystallization, the volume decreases by 6 to 11.8 %. Optimum crystallization temperatures were deter-

Card 1/2 mined for melts of various compositions. The temperatures

Investigations of the Crystallization of Stone Castings 21-58-7-18/27

were measured in the center and at the surface of slag and glass castings, and it was concluded that slag castings must be cooled down very slowly in order to avoid cracking.

There is I table and I graph.

ASSOCIATION: Kiyevskiy politekhnicheskiy institut (Kiyev Polytechnic

Instituta)

SUBMITTED: January 30, 1958

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the trans-

literation.

1. Rock--Applications 2. Rock--Properties 3. Slags--Casting

4. Clays--Casting 5. Class--Casting 6. Castings--Crystallization

Card 2/2

AUTHOR:

Rodnikova, V.V.

72-58-6-7/19

TITLE:

The Determination of the Reduced Coefficients of the Thermal Conductivity of Some Types of Glass (Opredeleniye privedennykh

koeffitsiyentov teploprovodnosti nekotorykh stekol)

PERIODICAL:

Steklo i Keramika, 1958, Vol. 15, Nr 6, pp. 20-21 (USSR)

ABSTRACT:

The temperature drop in the glass mass and/or in the glass products after cooling down could hitherto not be calculated because the coefficient of thermal conductivity necessary for this purpose was measured only at low temperatures. Heat exchange in a layer of transparent glass is brought about both by thermal conductivity and by the heat radiated by the glass itself, which the authoress already pointed out in her previous works (Ref 1). The value of the reduced coefficient of the thermal conductivity of glass, which includes thermal conductivity and thermal radiation, is modified with an increase of temperature within wide limits and at 1400° attains values which exceed the thermal conductivity of steel. The authoress recommends a method of computation based upon the formulae developed by N.A.Zakharikov (Ref 2). The thermal capacity of glass in a heated state was computed by the formulae developed by C.K.Botvinkin (Ref 3). The experiment is described. Three values

Card 1/2

The Determination of the Reduced Coefficients of the Thermal Conductivity of Some Types of Glass

72-58-6-7/19

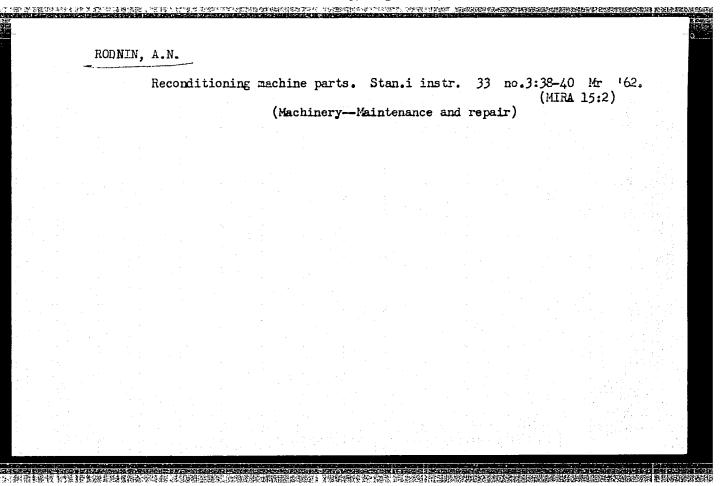
of the reduced coefficient of the thermal conductivity of 3 types of industrial glass as well as for building bricks are given in figs. 1 and 2. The ferrous oxide content of the types of glass investigated may be seen from a table. In practice it is of importance that the reduced coefficient of thermal conductivity for window glass at annealing temperature is about double that of normal temperature, a fact, which has hitherto not been taken into account. This method can be applied for the purpose of determining the coefficient of the thermal conductivity of various types of industrial glass within the temperature interval of 100 - 9000, which comprises the most important production processes of forming and annealing, as well as for the purpose of determining the thermal conductivity of refractories. There are 2 figures, 1 table, and 5 references, 4 of which are Soviet.

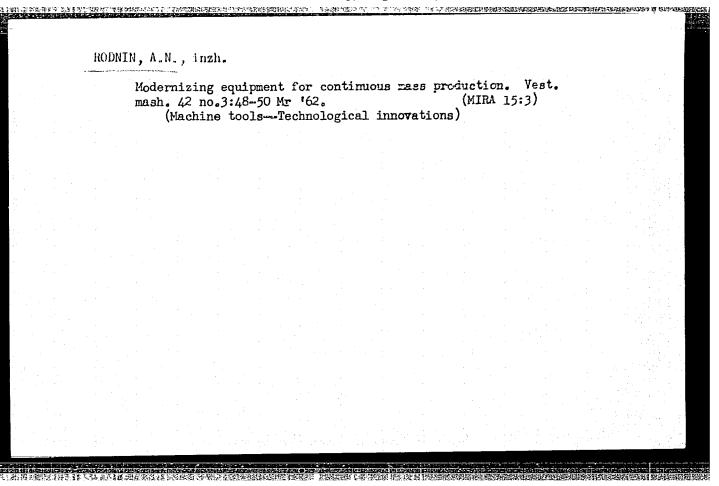
ASSCCIATION: Kiyevskiy politekhnicheskiy institut (Kiyev Polytechnic Institute)

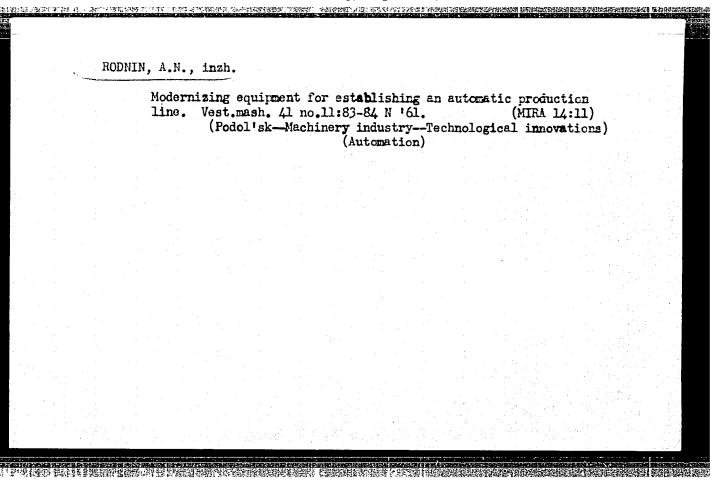
1. Glass--Heat transfer 2. Glass--Thermodynamic properties

Card 2/2

	RODNIN,	
•	.	Reconditioning machine parts. Mashinostroitel no.6:17-18 Je (MIRA 16:5)
		(Machine tools-Maintenance and repair)







S/122/60/000/004/013/014 A161/A130

AUTHOR:

Rodnin, A.N., Engineer

TITLE:

Some practical experience with equipment repair and modernization

PERIODICAL:

Vestnik mashinostroyeniya, no. 4, 1960, 69 - 74

TEXT: The author points out that repair and modernization of obsolete machines usually costs too much, and illustrates this by examples of these costs at the Podol'skiy mekhanicheskiy zavod im. Kalinina (Podol'sk Machine Plant im. Kalinin). For instance, the capital overhaul of the 1A62 (1D62) screw-cutting lathe frequently amounts to 75% to the cost of a new, i.e., 10,000 rubles or more, and the modernization according to ENIMS standard modernization plan (raising the spindle velocity to 1,200 rpm) increased the cost of the 1D62 to 20,000 from the initial 9,800 rubles; quite many turret lathes have been modernized by replacing the spindle stock, changing the planetary gear ratio, adding a motor, a new electric system, etc., and actually building a new machine. The result is a 25% higher productivity and costs of 6,000 rubles, and the economic advantage is absolutely insufficient to compensate the expenditures in several years. The Podol'skiy Plant is a mass-production plant, and a considerable part of its machine

Card 1/4

S/122/60/000/004/013/014 A161/A130

Some practical experience ...

tools are of a special-purpose type with multiposition attachments; 46.5% of the machines are more than 20 years old. A special new repair techniques department at the mechanical repair shop is expected to reduce costs. The author lists modern repair and resurfacing methods stressing the advantages of hard-alloy surfacing; electro-metallization; bi-metal bearings; resurfacing worn bronze bushings by metallization with bi-metal wire (aluminum and lead); the use of ACT (DSP) laminar wood plastics as substitute for metal in bearing bushings, gears, various guides, bronze rings in crank presses. Gears from DSP in tumbling drums have a longer life than former bronze gears (1 year comparing to 3 months). Partial modernization, i.e., new machine components instead of complete change of machines is recommended by the author as economically justified, and several examples of such modernization are given: a vertical milling machine turned into a 10-spindle drilling automate for simultaneous drilling from two sides; two operations combined into one in a NPK-1A-9 (PRK-1A-9) semi-automatic reaming machine; new automatic feeder for 800-ton caulking press. This feeder has increased the operation efficiency of the press 5 times. It moves thin sheet blanks of complex and uneven shape one by one into the die in 355 mm distance. The working principle consists in singling out every following blank by a swinging gate that moves the blank in turns to the loading magazine and to the opening above the guide bars and

Card 2/4

Some practical experience ...

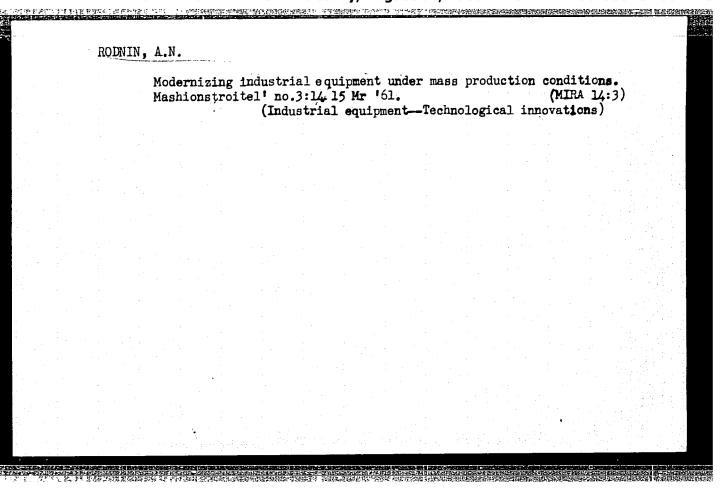
S/122/60/000/004/013/014 A161/A130

feeding pusher. Blanks (1) (Fig. 5) are loaded into the guide walls of the magazine (2), and one blank at the bottom of the pile touches by its edges the cut-off gate (3) swinging on the same axis with the blank. The cut in the gate having the shape and size of the blank coincides in turns with the guide walls of the magazine and with the opening in a stationary ring (4) above the guides. Automation included into the modernization plan for 1959 - 1965 is expected to reduce work consumption and to raise the machines output by 20-30%. Some modernized machines will be joined into automatic lines. There are 5 figures and 2 tables.

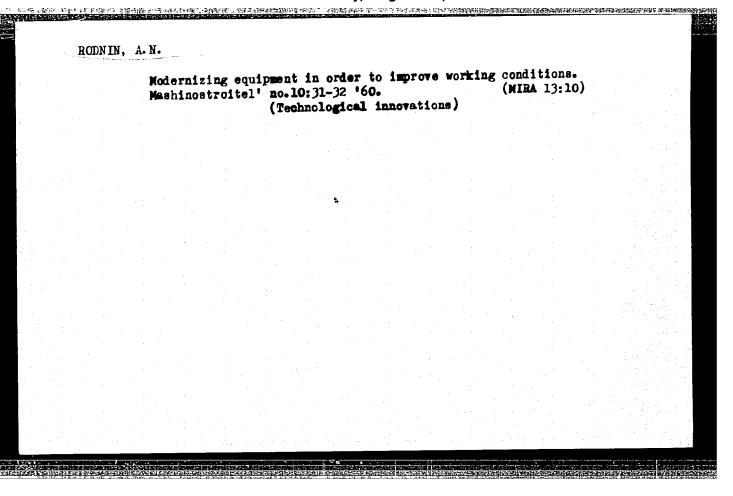
· 我们也是一种的人,我们还是我的感情的感情的意思,是自然的情况,这一个人,我们的是多少的的的是是<mark>我们是我们的的现在</mark>。

ASSOCIATION: Podol'skiy mekhanicheskiy zavod im. Kalinina (Podol'sk Machine Plant imeni Kalinin)

Card 3/4



Reconditioning parts by metal spraying. Mashinostroitel' no.12: 23-24 D'60. (MIRA 13:12) (Metal spraying)		Reco	ndit:	ionin	g pa	rts	р у шө	tal s	prayi	ıg∙	Mash	inosti	oitel: (MIRA	no.l 13:12	2:	
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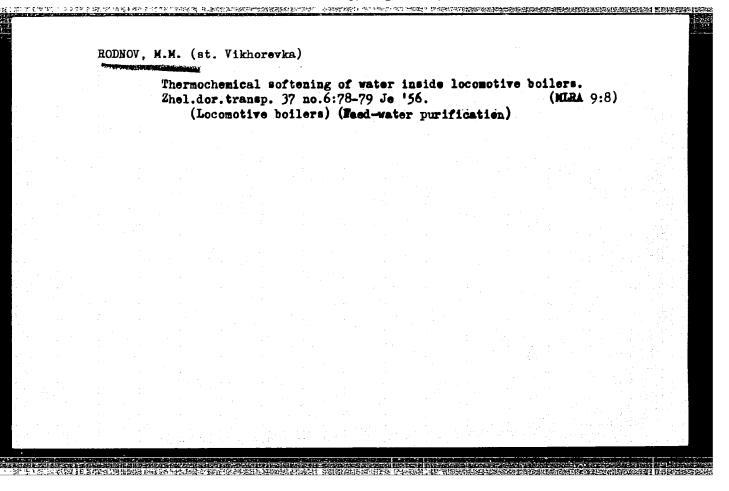
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RODNIN, A.N., inzh.

Experience in repairing and modernizing equipment. Vest.mash. 40 no.4:69-74 Ap 60. (MIRA 13:6)

1. Podol skiy mekhanicheskiy zavod im.Kalinina. (Podol sk-Industrial equipment)

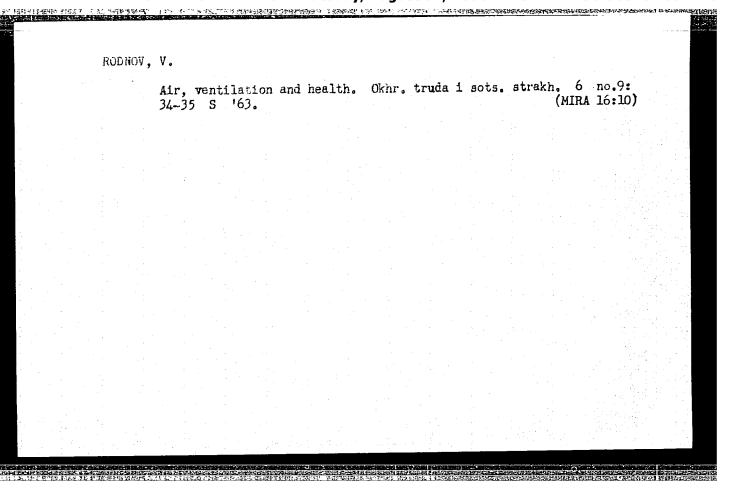
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RUBINSHTEYN, G.; BOL'SHAKOV, L.; RODNOV, V.; GUBANOV, M.

A reprint is needed. Vnesh.torg. 30 no.9:36 '60. (MIRA 13:9)

(Commerce-Dictionaries)



NESTEROV, M.; KHONKAYURI, P.; RODNOV, V.; VAL'FORS, V.; NICHKOV, V.; VALDEN, Yu.

> Favorable prospects of Soviet-Finnish trade. Vnesh.torg. (MIRA 13:6) no.6:29-31 '60.

1. Predsedatel Prezidiuma Vaesoyuznoy torgovoy palaty (for Nesterov). 2. Predsedatel' finsko-sovetskoy torgovoy palaty, general'nyy direktor Aktsionernogo obshchestva "Rauma-Repola" for Khonkayuri). 3. Predsedatel' Vsesoyuznogo Ob"yedineniya "Mashinoeksport" (for Rodnov). 4. General nyy direktor Aktsionernogo obshchestva "Vyartsila-kontsern," chlen pravleniya finskosovetskey palaty (for Val'fors). 5. Predsedatel' Vsescyuznogo Ob"yedineniya "Eksportles" (for Nichkov). 6. Direktorrasporyaditel Aktsionernogo obshchestva "Ob"yedinennyye bumazhnyye fabriki, " chlen pravleniya finsko-sovetskoy torgovoy palaty (for Valden). (Russia -- Commerce -- Finland) (Finland -- Commerce -- Russia)

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RODHOV, V.I.; MARTYNOV, B.P.; VASIL'YEV, N.V.; NIKOLAYENKO, B.Z.; GUROV, Ye.P.; VOLCHKOV, Ye.P.; NICHKOV, V.H.; MARKELOV, I.A.; GUBANOV, M.V.

What does you association offer for the 43d anniversary of the Great October? Chiefs of all-union associations speak. Vnesh. torg. 30 no.10:28-33 '60. (MIRA 13:10)

1. Predsedatel' Vsesoyuznogo ob"yedineniya "Mashinoeksport" (for Rodnov). 2. Predsedatel' Vsesoyuznogo ob"yedineniya "Mashonoimport" (for Martynov). 3. Predsedatel' Vsesoyuznoye ob"yedineniye "Mashpriborintorg" (for Vasil'yev). 4. Predsedatel' Vsesoyuznogo ob"dineniya "Tekhnopromimport" (for Gubanov). 5. Ispolnyayushchiy obyasannosti predsedatelya Vsesoyuznogo ob"yedineniya "Soyuzpromeksport" (for Nikolayeko). 6. Predsedatel' Vsesoyuznogo ob"yedineniya "Soyuznefteeksport" (for Gurov). 7. Predsedatel' Vsesoyuznogo obyedineniya "Promsyr'yeimport" (for Volchkov). 8. Predsedatel' Vsesoyuznogo ob"yedineniya "Exsportles" (for Nichkov). 9. Predsedatel' Vsesoyuznogo ob"yedineniya "Raznoeksport" (for Markelov). (Russia--Commerce)

ZAKHAROV, M.S.; STROMBERG, A.G.; RODNOVA, G.G.

Polarographic determination of manganese in glasses. Zav.lab.
26 no.2:153-154 '60. (MIRA 13:5)

1. Tomskiy politekhnicheskiy institut 1 Tomskiy elektrolampovyy zavod.

(Manganese-Analysis)

(Glass-Analysis)

5 (2) AUTHORS:

Zakharov, M. S., Stromberg, A. G.,

S/032/60/026/02/011/057 B010/B009

Rodnova, G

Rodnova, G. G.

TITLE:

Polarographical Determination of Manganese in Glasses

PERIODICAL:

Zavodskaya laboratoriya, 1960, Vol 26, Nr 2, pp 153 - 154 (USSR)

ABSTRACT:

A new method for the determination of manganese in special glass types containing considerable amounts of manganese was developed. Experiments showed that Mn²⁺ may be best determined polarographically in an ammonia - ammonium chloride solution.

M. A. Shcherbachev (Ref 1) recommends that the latter solution be first added to the solution under investigation and the sodium sulfite added subsequently. The present authors, however, noted that in this case a partial precipitation of MnO(OH) takes place. It was found that the sodium sulfite amount added affects the polarographic wave of Mn²⁺ (Figure), since Mn²⁺ forms a stabler complex with sodium sulfite than it does with ammonia. The working method given provides for the glass to be dissolved with NH_AF. In order to prevent precipitation of manganic acid

Card 1/2

Polarographical Determination of Manganese in Glasses

S/032/60/026/02/011/057 B010/B009

at the addition of ammonia, $1 \text{m Na}_2 \text{SO}_3$ solution is added to the hydrochloric acid solution of the oxides. Subsequently, the mixture of 0.1 m NH₄OH, 0.25 m NH₄Cl, 0.25 m Na₂So₃, and 0.025% of gelatine is added. The determination results obtained polarographically are in agreement with those obtained gravimetrically (Table). There are 1 figure, 1 table, and 1 Soviet reference.

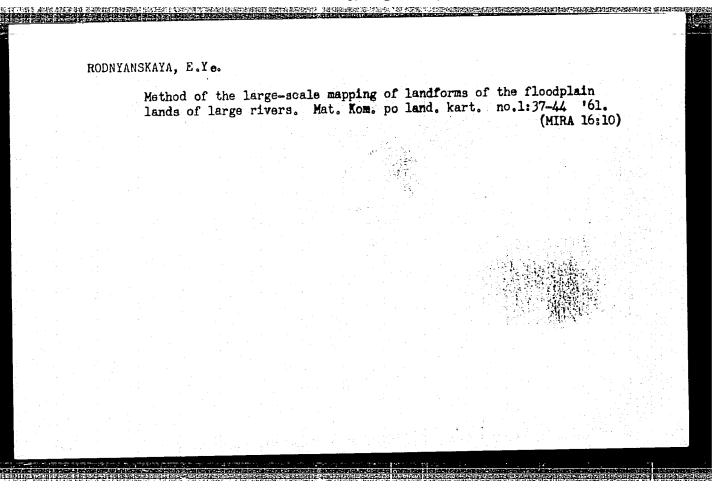
ASSOCIATION: Tomskiy politekhnicheskiy institut (Tomsk Polytechnic Institute). Tomskiy elektrolampovyy zavod (Tomsk Electric Bulb Plant)

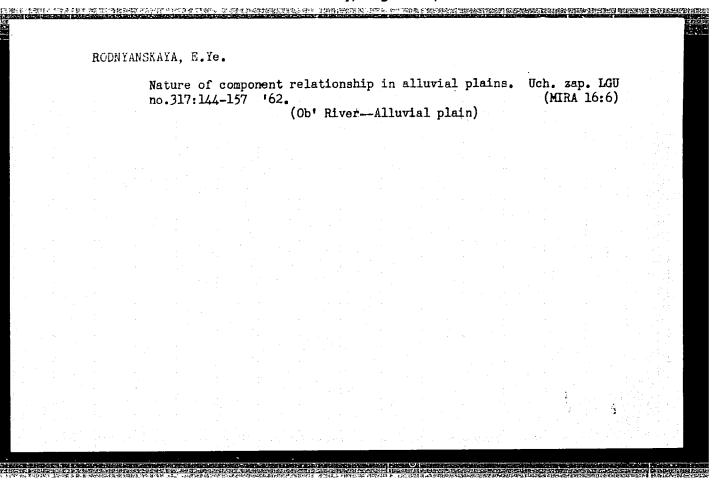
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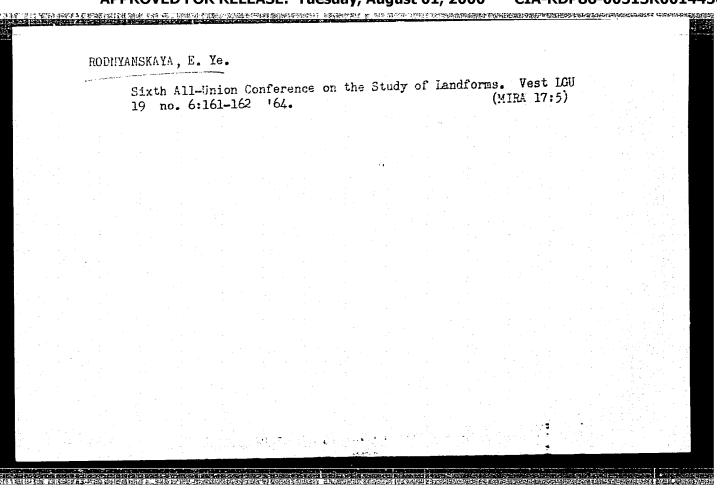
RODNYANSKAYA, E.I.; FROLOV, Yu.S.

Contribution of young geographers to science. Vest. LGU 18 no.12: (MIRA 16:8)

143-144 '63. (Geography)







RODNYANSKAYA, E.Yo.

Brief characterization of the vegetation of the Ob flood plain in Berezovskiy District. Hauch.dokl.vys.shkoly;geol.-nauki no.4: 90-98 58. (MIRA 12:6)

1. Moskovskiy universitet, geograficheskiy universitet, Obskaya ekspeditsiya.

(Ob Valley--Vegetation and climate)

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001445 。 1918年 - 191

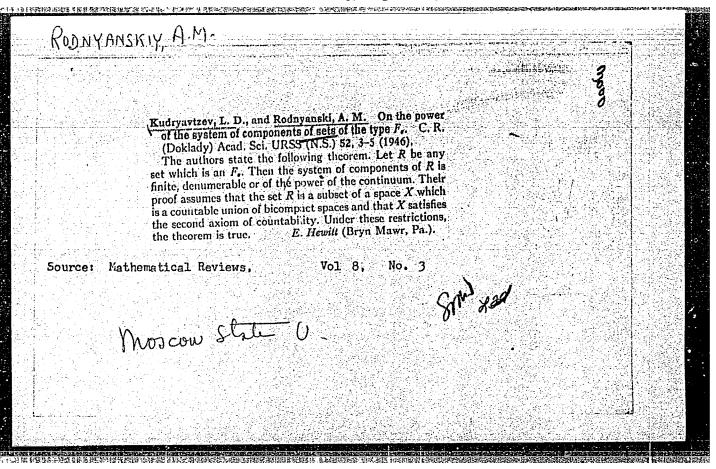
CHOCHIA, N.S.; RODNYANSKAYA, E.Ye. Characteristics of the morphological structure of landforms of the Or'-Kuma watershed (Southern Urals). Vest. LGU 19 no.18:

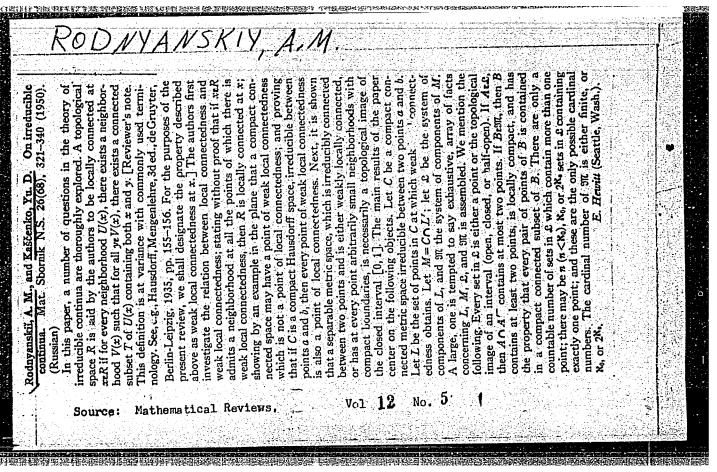
(MIRA 17:11)

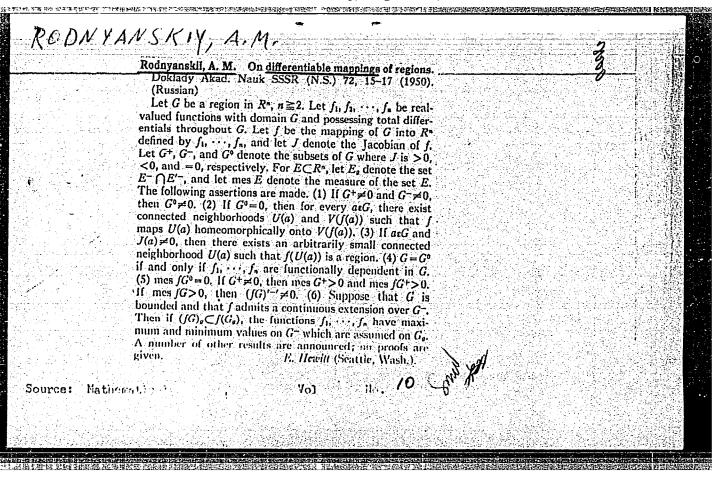
63-69 164.

"APPROVED FOR RELEASE: Tuesday, August 01, 2000

CIA-RDP86-00513R001445







DINYANIKIY, A-M Intepent representations .. the degree of a mapping. Doklady Akad. Nauk SSSR (N.S.) 91, 1019-1021 (1953). (Russian) Denote by G a bounded region in Euclidean n-space Ra, and denote by G_{\bullet} the boundary of G. If $f: G \rightarrow \mathbb{R}^n$ is continuous and each f-1(y) is compact, then Sitnikov [Mat. Sbornik N.S. 31 (93), 439-458 (1952); these Rev. 14, 489] has defined the degree $\gamma(f, y)$ of f at the point y. In this paper, it is assumed that $f: G \to R^n$ is continuous; for each $y \in R^n - fG_n$, the degree $\gamma(f, y)$ is defined. Most of the theorems are listed below; no proofs are given. Theorem 1: $\gamma(f, y)$ is constant on each component of $R^n - fG_0$ (if O is such a component, $\gamma(f, 0)$ will indicate this constant). Theorem 2: if f is differentiable on G and J(x) is the Ja-Mathematical Reviews cobian of f, then $\gamma(f, y)$ is characterized by the following: Vol. 15 No. 4 1) $\gamma(f, y)$ is defined on $R^n - fG_0$ and constant on each component of $R^n - fG_0$; 2) if $y \in R^n - fG_0$ and $f^{-1}y$ contains no zero of J(x), then $\gamma(f, y) = \sum_{x \in J^{-1}y} \operatorname{sign} J(x)$. Hereafter, Apr. 1954 Topology suppose that f is continuously differentiable on G. Theorem 3: if O is a component of $R^n - fG_0$ with J(x) summable on $f^{-1}(O)$, then $\gamma(f, O) = (\int_{f^{-1}(O)} J(x) dx) / \text{meas } O$. Hereafter, suppose that f is continuously differentiable on an open-set containing G and that meas $G_g = O$. Theorem 6: $\int_{\mathcal{A}} J(x) dx \stackrel{\bullet}{=} \sum \gamma(f, O_k) \cdot \text{meas } O_k,$ where summation is over all components of $R^n - fG_o$. Theorem 7: if $\int_{a}^{a} J(x) dx \neq 0$, then $\int_{a}^{c} G_{a}$ separates R^{n} . Theorem 9. Where is a real-valued summable function on fG, then $f_G = \frac{1}{2} \left(\frac{1}{2} \sum_{i=1}^{n} \frac{1}{2} \left(\frac{1}{2} \sum_{i=1}^{n} \frac{1}{2} \sum_{i=1}^{n$ AND COMPANY OF THE PROPERTY OF

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SUBJECT

USSR/MATHEMATICS/Topology

CARD 1/1

PG - 54

AUTHOR

RODNJANSKIJ A.M.

TITLE

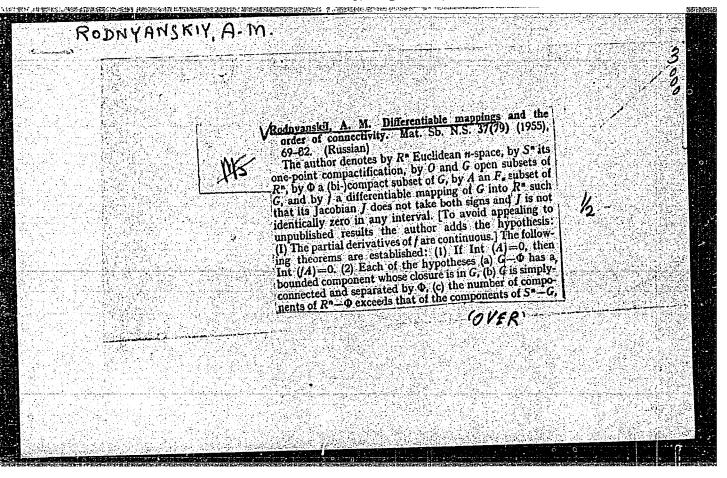
On continuously differentiable mappings of open sets. Mat. Sbornik, n. Ser. 36, 233-262 (1955)

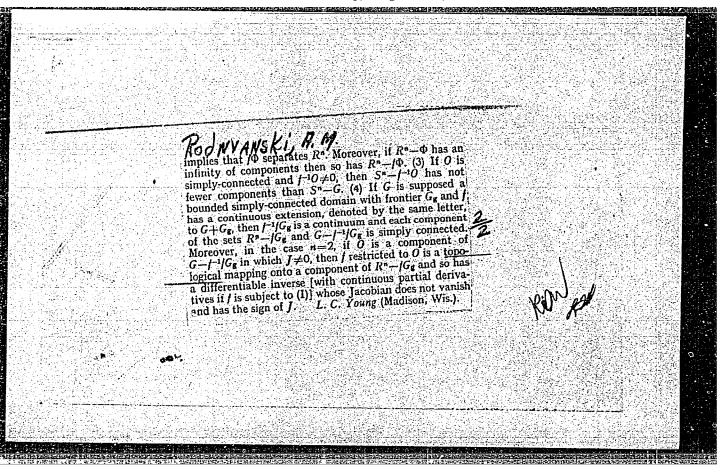
PERIODICAL reviewed 6/1956

The author considers topological, metric and metric-topological properties of continuously differentiable mappings of an open set G of the Rn into the

space Rn. All theorems have already been announced by the author (Doklady Akad. Nauk 72, 15-17 (1950) and Doklady Akad. Nauk 91, 1019-1021 (1953)). In the present paper the proofs for these theorems are given. The fundamental idea of this paper consists in the transfer of the argument principle of the theory of analytic functions of complex variables to the n-dimensional real analysis. By connection of the combinatoric topology and the Lebesgue's measure theory the author gives proofs for non-trivial theorems of the real analysis. The continuous differentiability of the mapping f is assumed everywhere although - according to the author - most of the results are valid for differentiable f, some even for arbitrary continuous f.

INSTITUTION: Moscow





RODNYANSKIY, A.M., kandidat fiziko-matematicheskikh nauk.

Differentiable mappings. Trudy MEI no.61:58-67 **156.

(Aggregates)

(Aggregates)

Rodnyanskiy, A.M. (Moscow)

39-2-2/6

AUTHOR: TITLE:

On Continuous and Differentiable Mapping of Open Sets of an Euclidean Space. (O nepreryvnykh i differentsiruye-

mykh otobrazheniyakh otkrytykh mnozhestv evklidova

prostranstva)

PERIODICAL: Matematicheskiy Sbornik, 1957, vol.42(84), No.2, pp. 179 - 196 (USSR)

ABSTRACT: A continuous mapping f of an open set G of an n-dimensional Euclidean space R into the same space is studied. As far as is known to the author, only the following theorems on this topic have been proved: the classical Brewer theorem on the openness of a topological mapping of G into R; the theorem of K. Borsuk [Ref. 8] that if GCR and the inverse images of all points are uniformly bounded in modulus, then the image fG is a domain having an (n-1)-dimensional Betti number equal to zero and the theorem of K A Sitinkov [Ref. 1] number equal to zero, and the theorem of K.A. Sitinkov [Ref. 1] that if O is any fixed point not belonging to the boundary G of a set G in the space R such that:

 $\frac{\delta f^{-1}f(x)}{2(x-0)} \rightarrow 0 \text{ for } x \in G, x \rightarrow G_g$

Card 1/4

39-2-2/6

On Continuous and Differentiable Mapping of Open Sets of an Euclidean Space.

then the image fG is an open set in R^n , homologically equivalent to the set G . The author discusses a certain class of continuous mappings with restrictions which differ from those imposed by Borsuk and Sitinkov. The study of this class of mappings is not without interest, in particular, because the internal mappings investigated for the case n = 2 by S. Stoilow (Refs. 9 and 10) are a particular case of the mappings herein investigated and also because the methods developed in the study of this class make it possible to remove the requirements of continuity of partial derivatives in certain classical theorems of analysis. The mappings studied are: l) isolated mappings i.e. such that the inverse image f y of each point y c R is an isolated set; and 2) regular mappings i.e. isolated mappings such that the local degree $\gamma(x) \neq 0$ for all $x \in G$. Theorem (1) discusses the behaviour of the mappings in the neighbourhood of a regular point a, i.e. such a point that the inverse image f f(a) is an isolated set and a local degree $\gamma(a) \neq 0$. From this theorem, it follows that any (not necessarily isolated) mapping f is Card2/4open at each of its regular points. It also follows from

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On Continuous and Differentiable Mapping of Open Sets of an Euclidean Space.

theorem (1) that the continuous mapping f is open at the point a if it is differentiable at a and its Jacobian does not vanish at a. Following theorem (1), the concept of a point of mutual, single valuedness of a mapping of a set E G (with mutual, single valuedness of a mapping of a set E such that there respect to a mapping f), i.e. a point a E such that there is a neighbourhood U = U(a) for which no point of U \(\) E is a neighbourhood U = U(a) for which no point of U \(\) E is a sub-set of a set U \(\) R. Theorem (2) asserts that if E is a sub-set of a set of regular points of the mapping f such that each of its limit of regular points of mutual, single valuedness of the set is open and everywhere dense in E. Theorem (3) asserts that is open and everywhere dense in E. Theorem (3) asserts that regular mapping is open and this theorem contains, as a special regular mapping. I.D. Kudryavtsev [Ref.11] has generalised theorem (3), asserting that if f is an isolated mapping, the degree of which can be zero only at isolated points, then f is an open mapping of G into R. Theorem (4), previously an open mapping of G into R. Theorem (4), previously announced by the author in Ref.[4], states that the Jacobian of a differentiable mapping of a domain G cannot change sign in G differentiable mapping of a monounce (5) gives a sufficient

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39-2-2/6

On Continuous and Differentiable Mapping of Open Sets of an Euclidean Space.

criterion that a mapping is locally topological. From theorems (4) and (5) follows theorem (6), which states that a different-iable mapping with a Jacobian which nowhere vanishes is locally topological. Theorem (6) was also announced in Ref.[4]. Kudrya-vtsev [Ref. 6], using theorem (6), obtained a theorem on implicit functions in which the continuity of the partial derivatives of the mapping functions is not required. G is a non-empty open set oriented in Rⁿ (n > 2); a is a point of G; f is a continuous mapping of G into Rⁿ.

:"这是这个人,这一是不够的人的是不是在一种的,但是我们的有人。"在他的的意义,一样,不是不多,也可能会是这种的的的。

There are 11 references, of which 8 are Slavic.

SUBMITTED: April 8, 1955.

AVAILABLE: Library of Congress

Card 4/4

CODNYANSKIY, A.M

20-4-7/60

AUTHOR:

Rodnyanskiy, A.M.

TITLE:

On the Mapping of the Product of Topological Spaces by Euclidean Spaces onto an Euclidean Space (Ob otobrazheniyakh proizvedeniya topologicheskogo prostranstva na yevklidovo v yevklidovo prostranstvo)

PERIODICAL:

Doklady Akademii Nauk SSSR, 1957, Vol. 115, Nr 4, pp. 659-662 (USSR)

ABSTRACT:

At first the rather numerous terms used in this paper are explained and definitions are given. Then 9 theorems with fairly many corollaries are given. All results described in this paper are, accoming to the author, essentially new even for the case X = R^p when p > 0. In this connection X is the topological space and R^p is a p-dimensional orientated Euclidean space. p signifies here the number of dimensions. Some of the theorems given here are also essentially new for the case X = R^p. There are 6 Slavic references.

Card 1/2

CIA-RDP86-00513R001445 "APPROVED FOR RELEASE: Tuesday, August 01, 2000

20-4-7/60

On the Mapping of the Product of Topological Spaces by Euclidean Spaces onto

an Euclidean Space

Moscow Physico-Technical Institute ASSOCIATION:

(Moskovskiy fiziko-tekhnicheskiy institut)

February 28, 1957, by P.S. Aleksandrov, Academician PRESENTED:

February 27, 1957 SUBMITTED:

Library of Congress AVAILABLE:

Card 2/2

RUDNYANSKI

RODNYANSKIY, A.M. AUTHOR:

20-4-9/51

TITLE:

On Completely Continuous Vector Fields in the Banach Space

(0 wpolne neprerywnykh wektornykh polyakh w banakhovom prostranstwe)

PERIODICAL: Doklady Akademii Nauk SSSR,1957, Vol. 116, Nr. 4, pp. 556-559 (USSR)

ABSTRACT:

Let R be a real Banach space, E CR. Let e be an identical mapping of R onto itself. Let X be a logical linearly connected topological space, Z the topological product of X and R; GSZ. The author considers mappings f of E in R for which e-f is a completely continuous mapping of E in R (completely continuous vector fields) and continuous mappings of G in R such that to every (xo,yo) EG

there exists a neighborhood $0^z = 0^z(x_0, y_0)$ such that $\psi 0^z$ is

relatively compact in R. Altogether in 12 theorems the author gives 29 assertions withent proof. The assertions partially are generalizations or imprevements

(weaker assumptions) of results published by the author and

Kudryavtsev L.D. during the last years [Ref. 1-10].

Card 1/2

20-4-9/51

On Completely Continuous Vector Fields in the Banach Space.

CIA-RDP86-00513R0014 APPROVED FOR RELEASE: Tuesday, August 01, 2000

ASSOCIATION: Moscow Physical-Technical Institute (Moskovskiy fiziko-tekhnicheskiy

PRESENTED BY:P.S. Aleksandrov, Academician, April 4, 1957

March 10, 1957 SUBMITTED:

Library of Congress AVAILABLE:

Card 2/2

sov/39-46-1-2/6 Rodnyanskiy, A.H. (Moscow) AUTHOR : On the Mappings of the Product of a Topological and of an TITLE: Euclidean Space Onto an Euclidean Space (Ob otobrazheniyakh proizvedeniya topologicheskogo prostranstva na evklidovo v evklidovo prostranstvo) Matematicheskiy sbornik, 1958, Vol 46, Nr 1, pp27-60 (USSR) PERIODICAL: The theory of differentiable mappings already treated for several ABSTRACT: times by the author and Kudryavtsev [Ref 5-22] is developed. The main results of the present paper were already announced by the author [Ref 23] one year ago. In the present paper all nontrivial proofs are explicitely given. The essential assumptions of the author are as follows: $R^{\mathbf{p}+\mathbf{q}}$ be an Euclidean space with the coordinates $x_1, \dots, x_p, y_1, \dots, y_q$. The mapping f(x,y) is assumed to be differentiable only with respect to y for arbitrary x and to be continuous in x and y. The set G in which f is defined and continucus, is assumed to be an open subset of the topological product Z = $[X, R_v^q]$, where X is an arbitrary topological space Card 1/3

On the Mappings of the Product of a Topological and of an Euclidean Space Onto an Euclidean Space

307/39-46-1-2/6

(which in many cases need not be a T space and does not have to satisfy the first axiom of countability). Under these assumptions a great series of properties of the considered mappings ions a great series of properties of the projections and interies obtained by the investigation of the projections and interies consideration of the degree of mapping. The paper is the consideration of the degree of mapping. The paper is written very compendiously, consists of 13 paragraphs and gives, ordered by numbers, 159 properties; among them there are 10 theorems.

§ 1. Main notation and definitions (21 points). § 2. Simplest properties of the projections and intersections (62 points). § 4. Pros § 3. Mappings of partially ordered sets (10 points). § 4. Pros jections and intersections of sets which are bounded in y (8 points). § 5. Sets which are locally bounded in y (8 points). § 6. On the theory of mappings of "q" into "q" (3 points) § 7. Continuous mappings of open sets locally bounded in y.Simplest properties (9 points). § 8. The degree of a continuous mapping of an open set locally bounded in y into the Euclidean space of an open set locally bounded in y into the Euclidean space (8 points). § 9. Theorem on the inverse images (1 point). § 10. Mappings which are differentiable with respect to y. Regular points of continuous mappings (12 points). § 11. The begular points of continuous mapping near a regular point (21 points).

Card 2/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014450

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On the Mappings of the Product of a Topological and SOV/39-46-1-2/6

On the Mappings of the Product of a Topological and SOV/39-46-1-2/6

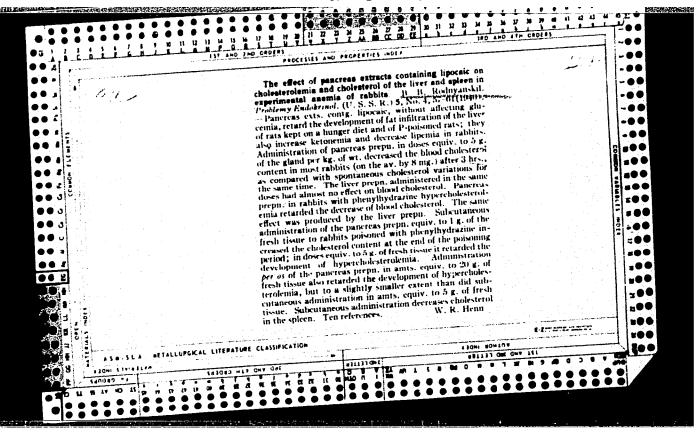
of an Euclidean Space Onto an Euclidean Space

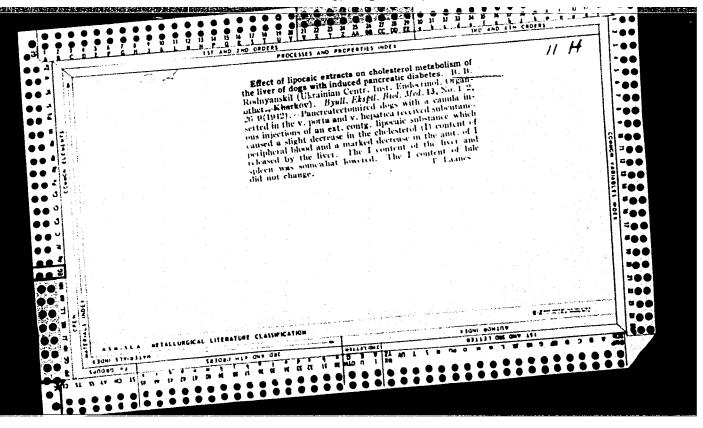
of an Euclidean Space

§ 12. The behavior of a mapping differentiable with respect to y near a regular point (17 points), § 13. The Darboux property of the jacobian. Implicit functions. Multiplicity of the mapping (7 points).

There are 23 references, 21 of which are Soviet, 1 American, and 1 German.

SUBMITTED: February 13, 1957





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RODNYANSKIY. B.B. (Chernovitsy); MALINSKIY, D.M. (Chernovitsy)

Significance of thyroid function test with the aid of radioiodine in the diagnosis of initial and obliterated forms of thyretoxicosis.

Probl.endok. i gorm. 2 no.1:8-12 Ja-F*56. (MLRA 9:10)

1. Iz kafedry fakul'tetskoy terapii (zav. prof. N.B.Shchupak)

Chernovitskogo meditsinskogo instituta (dir. M.M.Kovalev)

(HYPERTHYROIDISM, diagnosis, radioiodine test (Rus))

(IODINE, radioactive, diagn. of hyperthyroidism (Rus))
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RODNYAHSKIY, B.B., dotsent; KLOCHKOVA, L.S., kandidat meditsinskikh nauk

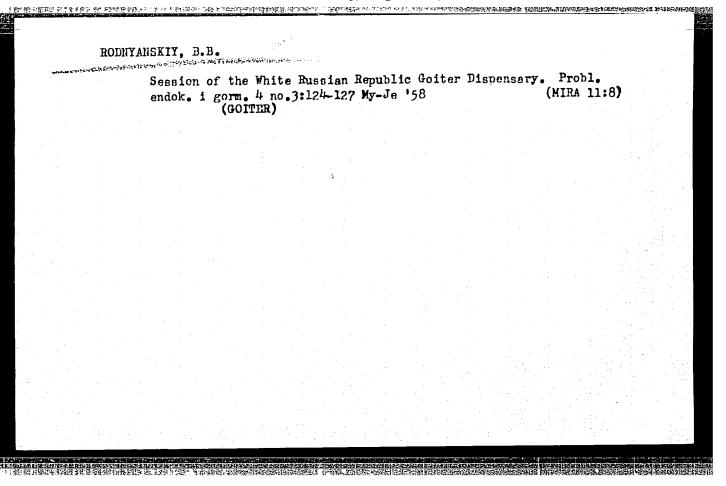
Studying functions of the thyroid with the aid of radioactive iodine in patients with Botkin's disease. Vrach.delo no.11:1211-1213 ¥ '56.

(MLRA 10:3)

1. Kafedra fakul'tetskoy terapii (zaveduyushchiy - professor W.B.:
Shchupak) Chernovitskogo meditsinskogo instituta.

(HEPATITIS, INFECTIOUS) (RADIOACTIVE TRACKES)

(THYROID GLAND)



RODNYANSKIY, B.B.

Radiometric examination of the function of the thyroid gland in diseases of the liver and bile ducts. Med.rad. no.1: 32-36'63. (MIRA 16:10)

1. Iz kafedry fakul tetskoy terapii (zav. - prof. N.B.Shchupak)
Chernovitskogo meditsinskogo instituta.
(RADIOMETRY) (THYROID GLAND)
(BILIARY TRACT—DISEASES)

RODNYANSKIY, I.M.; KOROBKOV, V.I.; GALINKER, I.S.

Contraction of aqueous solutions of alcohols at 237°C. Izv.vye. ucheb.zav.; khim.i khim.tekh. 5 no.1:62-64 162. (MIRA 15:4)

1. Khar'kovskiy sel'skokhozyaystvennyy institut imeni V.V. Dokuchayeva, kafedra fizicheskoy khimii.

(Alcohols)

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RODNYANSKIY, I.M.: ROROBROV, V.1.; GALINKER, I.S.

Specific volumes of electrolyte solutions at high temperatures. Zhur.fiz.khim. 36 no.10:2216-2219 0 '62. (MIRA 17:4)

1. Khar'kovskiy sel'skokhozyaystvennyy institut imeni Dokuchayeva.

5(4)

AUTHORS: Rodnyanskiy, I. M., Galinker, I. S., SOV/20-126-2-28/64

Korobkov, V. I.

TITLE: The Electric Conductivity of the Aqueous Solutions of Sodium

Hydroxide at High Temperatures (Elektroprovodnost' vodnykh

rastvorov yedkogo natra pri vysokikh temperaturakh)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 2, pp 327-329

(USSR)

ABSTRACT: Short reference is first made to several earlier papers

dealing with this subject, in which, according to the nature of the electrolyte and its concentration at various temperatures maxima of conductivity were found: For the salts of trivalent, bivalent, and univalent metals at 60°, 100-115°, and 280-300° respectively. It was of interest to investigate the further course of electric conductivity within the temperature range above 340°. However, the solution of this

temperature range above 340°. However, the solution of this problem entails experimental difficulties as to the selection of the material for the electric insulation of the electroly-

tic cell and the hermetical sealing of the current supply lines. The chemical industry is in need of methods for the

Card 1/3 determination of electric conductivity at high temperatures

The Electric Conductivity of the Aqueous Solutions of Sodium Hydroxide at High Temperatures

SOV/20-126-2-28/64

 $(\sim 360^{\circ})$ and even for the most aggressive media, i.e. for basic lyes. The electrolytic cell used by the authors and the electrolytic conductors built into the steel stoppers of the autoclave are shown by a schematical drawing and briefly discussed. Next, the method of measuring electric conductivity is described. These measurements were carried out by means of the bridge MVL-47. A diagram shows the curves for the variation of the specific electric conductivity \varkappa of aqueous NaOH solutions of various concentrations (1.3 and 5 %) up to 360°. All curves pass through a maximum near a temperature of 200-220° C. With increasing concentration the maximum shifts towards lower temperatures. At 360° the specific electric conductivity is by 2.5-3 times lower than maximum electric conductivity. The maximum of the conductivity for sodium hydroxide solutions is attained at lower temperatures than in the case of NaCl. At moderate temperatures NaCl and NaOH are equally strong electrolytes, but with increasing temperature, NaOH becomes a weaker electrolyte than NaCl. This is probably due to the existence of a larger

Card 2/3

The Electric Conductivity of the Aqueous Solutions of SOV/20-126-2-28/64 Sodium Hydroxide at High Temperatures

portion of covalent binding in the molecule of sodium hydroxide. An exact interpretation of the process will be possible only after a large number of experimental data will have accumulated. There are 2 figures, 1 table, and 6

references, 5 of which are Soviet.

ASSOCIATION: Khar'kovskiy sel'skokhozyaystvennyy institut im. V. V. Doku-

chayeva (Khar'kov Agricultural Institute imeni V. V. Doku-

chayev)

PRESENTED: March 3, 1959, by A. N. Frumkin, Academician

SUBMITTED: February 9, 1959.

Card 3/3

GALINKER, I.S.; RODNYANSKIY, I.M.; KOROBKOV, V.I.; LEKAKH, N.B.

Temperature-dependent differences in the thermodynamic properties of water and electrolyte solutions. Ukr. fiz. zhur. 9 no.4:401-405 Ap *64. (MIRA 17:8)

1. Sel'skokhozyaystvennyy institut im. V.V. Dokuchayeva, Khar'kov.

Dissertation: "Electrical Confuctivity of Aqueous Solutions of Strong Electrolytes at High Temperatures." Card Chem Sci, Khar'kov State U, Khar'kov, 1954. Referativnyy Zhurnal--Khimiya, Poscow, No 2, Apr 54.

SC: SUM 224, 26 Nov 1954

385 My 165.

KRASNOSEL'SKIY, V.N., RODMYARGELY, I.M., SHEYN, S.M., GALINKFR, I.S.

Conductometric analysis method for the control of alkali melting of the salts of arometic sulfo acids. Khim. prom. 41 no.5:384-

1. Rubezhanskiy filial Mauchno-issledovatel skogo instituta organicheskikh poluproduktov i krasiteley.

KOROBKOV, V.I.; RODNYANSKIY, I.M.

Compressibility of saturated monoatomic alcohols and their aqueous solutions at 237°C. Izv.vys.ucheb.zav.; khim. i khim.tekh. 8 no.2:214-217 '65. (MIRA 18:8)

1. Khar'kovskiy sel'skokhozyaystvennyy institut imeni Dokuchayeva, kafedra obshchey khimii.

RODNYANSKIY, I.M.		
	ELECTROCONDUCTIVITY OF CONCENTRATED AQUEOUS SOLUTIONS OF LICI, NaCI, AND KCI AT HIGH TEMPERATURES I. M. Rodnysakti and I. B. C. H. Galinker. (Khar'kov V. V. Dokuchaev Agri. Inst.) Dokiady Akad. Nauk 105, 115-18(1955) Nov. 1. (in Russian) Investigations of electroconductivity of 1 to 3N sait solutions of LiCl, NaCl, and KCl up to 340°C are discussed, and tabulations are given. (R.V.J.)	6
	are given. (R.V.J.)	Mert Mert

17(

SOV/177-58-9-3/51

AUTHORS:

Kuz minov, V.K., and Borshtenbinder, V.M., Colonels of the Medical Corps Rodnyanskiy, L.L., Lieutenant-

Colonel of the Medical Corps

TITLE:

The Prophylaxis of Traumatism in Garrison

PERIODICAL:

Voyenno-meditsinskiy zhurnal, 1958, Nr 9, pp 10-13

(USSR)

ABSTRACT:

The present article contains some basic problems of implementing prophylactic measures against injuries in military units. The Decree of the Plenum of the Central Committee of the CPSU of 17 December 1957 "On the Work of the Trade Unions of the USSR" says that the elimination of traumatism is to be considered a State task. This task is to be carried out by the command of the units, by the Medical Corps and by hospitals. The prophylactic work is to be headed by the surgical section of the garrison hospital under the control of a medical officer. According to statistical data, most injuries occur

Card 1/2

The Prophylaxis of Traumatism in Garrison

sov/177-58-9-3/51

(table 1). A sample questionnaire (table 2) is proposed to cover the principal reasons of traumatism, such as fatigue, insufficient supervision, faulty equipment, lack of safety provision, personal failure, and mere accidents. The kind of injury, its location and medical progress must be recorded and evaluated. A determination of the most frequently recurring single instances that lead to injuries is regarded as especially important. Elimination of these cases would considerably reduce the overall number of traumatisms.

Card 2/2

RODNYANSKIY, L.L., kand. med. nauk (Dnepropetrovsk, ul. Kirova. d.30-a.kv.3)

Nonindustrial traumatism and the role of medical personnel in its prevention. Ortop. travm. i protez. 24 no.6:39-42 Je 63 (NIRA 16:12)

KUZ'MINOV, V.K., polkovnik med.sluzhby; BORSHTEMBINDER, V.M., polkovnik med.
sluzhby; RODHYANSKIY, L.L., podpolkovnik med.sluzhby

Prevention of accidents in an army garrison. Voen.-med.zhur. no.9;
10-13 S'58.

(ACCIDENTS, prev. & control
in soldiers (Rns))
(ARMED FORCES PERSONNEL, dis.
accid. in soldiers, prev. (Rns))

BORSHTENBINDER, V.M., kend.med.neuk; RODHYANSKIY, L.L. (Ryazan')

Closed fracture of the pubic no.4:61 Jl-Ag '57.

(PELVIS-FRACTURE)

RODNYANSKIY, L. L. Cand Med Sci -- (diss) "For the technique of repostion and retention of fractions of broken bone during osteosynthesis operations."

Ryazan', 1957. 17 pp (Ryazan' State Med Inst im Academician I. P. Pavlov),

230 copies (KL, 14-58, 117)

-116-

New double bone holders for ognosynthesis, Ortop.travn. i protez.
13 no.3:52-54 My-Je 157. (KLEA 10:9)

1. Iz kafedry operativney khirugii (zav. = prof. M.A.Yerorev)
i kafedry fabulitatskoy khirugii (zav. = prof. V.A.Zhrur)
iyazanskozo meditalnavcco instituta in. akad. I.P Pavleve (dir. prof. U.S. Struicy)
(CMTHOFZMICS, appar. and instruments
double bone holders for coteosynthesis)

Hotanna City, L.L.

MISCELLANEOUS

"New Double Bone Holders for Osteosynthesis", by L.L. Rodnyanskiy, Chair of Operative Surgery (Head - Prof. M.A. Yegorov) and Chair of Faculty Surgery (Head - Prof. V.A. Zhmur) of the Ryazan' Medical Institute imeni Academician I.P. Pavlov (Director - Prof. L.S. Sutulov), Ortopediya, Travmatologiya i Protezirovaniye, No 3, May-June 1957, pp

A new type of double bone holders with a repositor, for osteosynthesis, is described. The instrument, which was designed by the author, is described in detail and illustrated by copious photographs showing the successive procedures of surgical operation. The advantages of the new device are as follows:

- 1. The physical exertion of the surgeon is lessened.
- 2. The number of assistants may be reduced to one.
- 3. The duration of the operation is decreased.

Card 1/2

- 55 -

CIA-RDP86-00513R001445

Holder. Voen.med.zhur. no.12:81 D'56. (MLHA 10:3)

(SURGIGAL INSTRUMENTS AND APPARATUS)

RODNYANSKIY, L.L., kand.med.nauk (Dnepropetrovsk, nl. Kirova, d.30-a, kv.3)

Methodology of fracture treatment. Ortop,, travm. i protez. 25 no.1:62-64 Ja 164. (MIRA 17:9)

1.Gorodskoy travmatolog, zaveduyushchiy travmatologicheskim otdeleniyem 16-y bol'nitsy Dnepropetrovska.

RODNYANSKIY, L.L.; KOTLYARCHUK, P.Z.

Internal injuries of the knee joint following direct application of force. Ortop., travm.i protez. 22 no.4:72 Ap 161.

(MIRA 14:11)

(KNEE WOUNDS AND INJURIES)

Review of "Design of airplane hydraulic devices" by T.M.Bashta. Vest. mashinostr. 43 no.11:90 N '63. (MIRA 17:2)

RODNYANSKIY, L.M.; YEGER, S.M.

L 17849-66 EWT(d)/EWP(1) IJP(c) BC

ACC NR: AP6004550 SOURCE CODE: UR/0103/66/000/001/0062/0073

AUTHOR: Kazamarov, A. A. (Moscow); Rodnyanskiy, L. O. (Moscow)

5**.**

ORG: None

TITLE: The theory of two-dimensional automatic control systems with modulation

SOURCE: Avtomatika i telemekhanika, no. 1, 1966, 62-73

TOPIC TAGS: automatic control, automatic control theory

ABSTRACT: A. A. Krasovskiy (Avtomatika i telemekhanika, t. SVIII, No 2, 1957; Ibid., t. XXI, No 9, 1960) studied two-dimensional automatic control systems // with identical channels and antisymmetric cross connections by means of complex transfer functions assuming that the modulation frequency greatly exceeds the eigenfrequenci. of the controlled plant. However, in many cases of practical interest this assumption is not valid. The present authors discuss the same problem concerning linearized two-dimensional systems and establish in complex coordinates the equation of a closed two-dimensional system with signal modulation. The derivation takes into account the nonstationary features introduced by the demodulation process, but the equations are reduced to a steady state form. The author establishes the conditions under which the evaluation of the nonsteady Card 1/2

	L 17849-66	
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	state of the demodulator becomes necessary. This nonsteady state limits the value of the Q-factor of the system. Orig. art. has: 69 formulas and 6 figures.	
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	Card 2/2 net	

RODMYANSKIY, L.O., inzh. (Moskva)

Problem concerning the paseage of an AM signal through linear four-terminal networks. Elektrichestvo no.3:53-57 Mr '62.

(Electric networks)

(Electric networks)

W

35373 S/105/62/000/003/002/003 E025/E484

9.3210 (1132,1159,1040)

Rodnyanskiy, L.O., Engineer (Moscow)

AUTHOR:

The passage of an amplitude modulated signal through

TITLE:

a linear fourpole

PERIODICAL: Elektrichestvo, no.3, 1962, 53-57

The recent use of automatic control systems having signals with double amplitude modulation and also phase modulation make it desirable to consider the equivalent transfer functions of such systems and the conditions for which real input and output signals It is shown that are connected by a linear differential equation. a linear system with an amplitude modulated input signal remains linear for complex amplitudes of the modulated signal without imposing any restrictions on the form of the system operator; however, for a real input signal it is necessary to restrict the form of the system operator to those having only real coefficients, otherwise the output signal becomes a complex function of time. The conditions are considered under which linear systems remain linear for real amplitudes of the modulated It is shown that a necessary condition is signal (envelope). Card 1/2

RODNYANSKIY, M.I., podpolkovnik meditsinskoy sluzhby; MARKARYAN, Ye.A., podpolkovnik meditsinskoy sluzhby

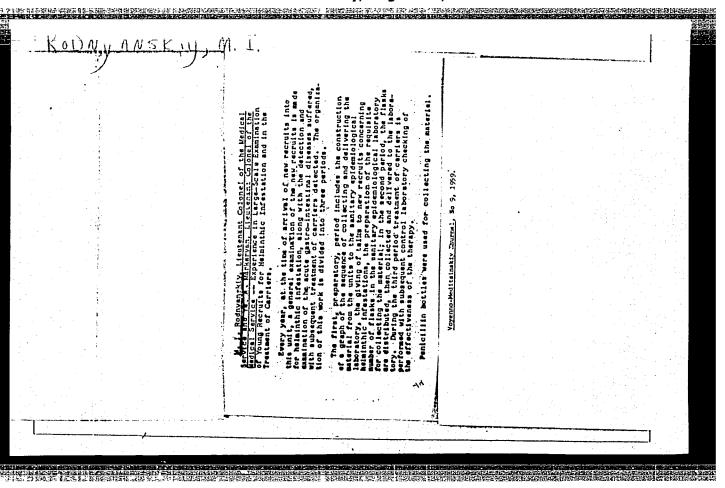
Mass examinations of new recruits for worms and treatment of carriers.

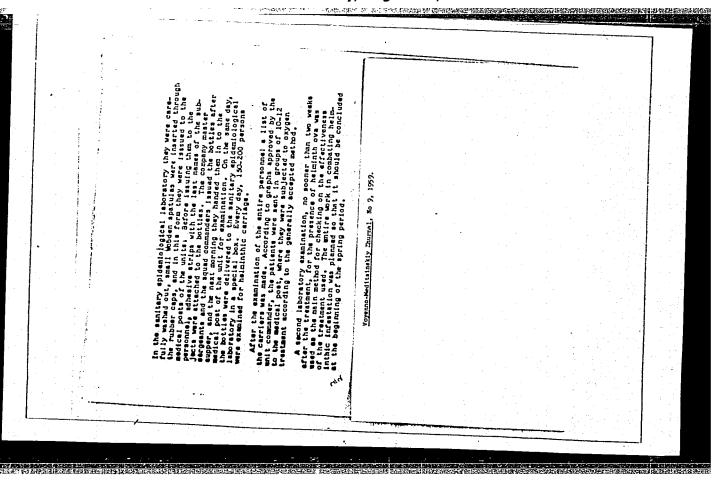
Voen.-med.zhur. no.9:81-82 S *50.

(RUSSIA--ARMY--MEDICAL EXAMINATIONS)

(WORMS, INTESTINAL AND PARASITIC)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014450





RODNYANYY, M.

Device for adjusting safety valves. Tekh. sov.kolkh., RTS, sovkhoz.

20 no.23:9-13 D '59.

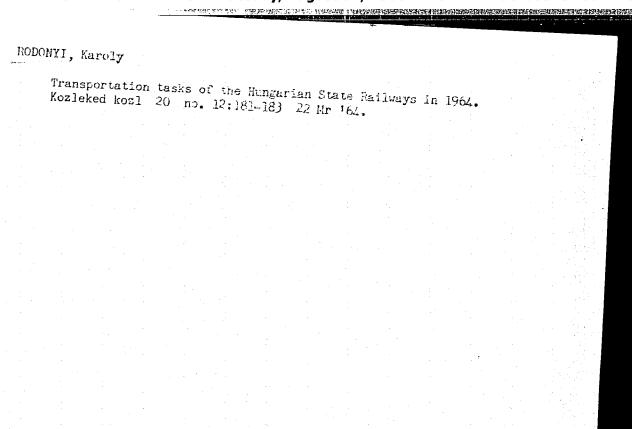
(Safety appliances)

(MIRA 13:3)

KULIK, Nikolay Alekseyevich [Kulyk, M.O.]; MEL'NIKOV, Dmitriy Ivanovich; RODNYANYY, Mikhail Ivanovich [Rodnianyi, M.I.]; SUSHKO, I.S., red.; YEROSHENKO, T.G. [IEroshenko, T.H.], tekhn. red.

[Laboratory and practical work with tractors and motor vehicles] Laboratorno-praktychni zaniattia z traktoriv i avtomobiliv. Kyiv, Derzhsil'hospvydav URSR, 1961. 234 p. (MIRA 15:7)

(Tractors) (Motor vehicles)



KONNOTI, Karal CSANADI, Gyorgy, dr., egyetemi tanar; FASKERTI, Sandor; SZABO, Dezso, dr., a kozlekedestudomanyok kandidatusa, okl.mernok; CSUHAY, Denes; TAKACS, Endre; CSABAI, Rudolf; WAGY, Rudolf; KUTAS, Laszlojmernok; VASARHELYI, Boldizear, dr., a muszaki tudomanyok doktora, tanszekvezeto egyetemi tanar; KOLLER, Sandor, muegyetemi adjunktus; KALWOKI Sandor; GYOMBER, Sandor; TALLO, Gyula; KOZARY, Istvan; SZILAGYI, Lajos; HEGYI, Kalman, okl. mernok; BERCZIK, Andras; MARKI, Laszlo; PALFI, BUDINSZRI, Endre; NAGY, Endre, okl. mernok; SZATMARY, Ferenc; MACORI, Judit; CSIKHELYI, Bela; MESZLERI, Zoltan; VEROSZTA, Imre; ZSIGA, Sandor; TOROK, Istvan; KONCZ, Laszlo; WESSELY, Ferenche; SZABO, Bela; KOMOROCZI, Lajos; GINTL, Jozsef; CSONTOS, Dezso; JAKAB, Sandor; LOVASZ, Istvan, mernok; KISS, Karoly, Robert, Herely

CONTRACTOR SOURCES OF THE STATE OF THE STATE

The City Transportation Conference in Szeged. Kozl tud sz 12 no.2:

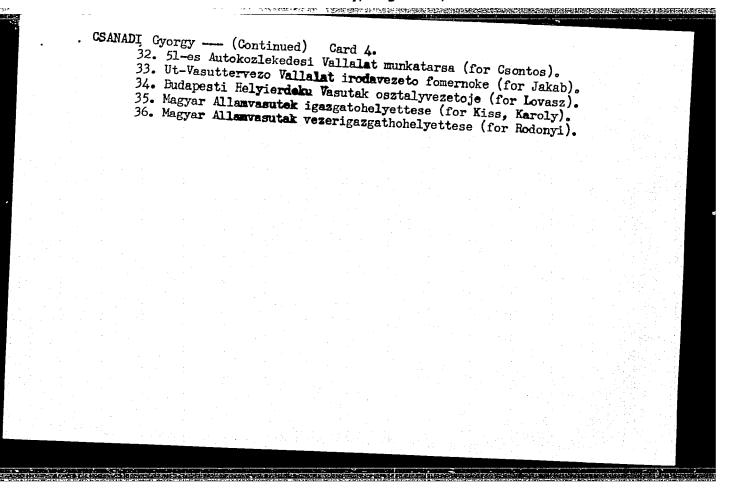
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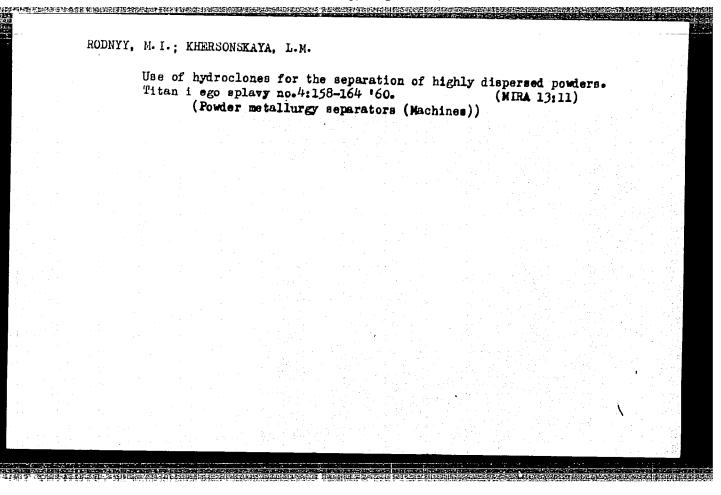
(Continued on next card)

CAMADI, Cyorgy --- (Continued) Card 2. 4. Fomermok, Kozlekedes- es Postaugyi Miniszterium Kozlekedespolitikai Osztalyanak munkatarsa (for Csuhay) 5. Kozlekedes- es Postaugyi Miniszterium Autokozlekedesi Vezerigazgatosaganak szakosztalyvezeteje (for Takacs) 6. MAV fointezo, a Kozlekedestudomanyi Egyesulet miskolci teruleti szervezetenek titkara (for Csabai) 7. Fomernok, a Fovarosi Tanacs Vegrehajto Bizottsaga Kozlekedesi Igazgatosaga helyettes vezetoje (for Magy) 8. Fovarosi Tanacs Vegrehajto Bizottsaga Kozlekedesi Igazgatosaganak fejlesztesi eloadoja (for Kutas) 9. "Kozlekedestudomanyi Szemle" szerkeszto bizottsagi tagja (for Vasarhelyi) 10. Csoportvezeto fomernok, Debrecen m.j. Varosi Tanacs Vegrehajto Bizottsaga Ipari es Kozlekedesi Osztaly (for Kalnoki Kiss) 11. Rendorornagy, Csongrad Megyei Rendorfokapitanysag Kozrendvedelmi Osztalya (for Gyomber) 12. Fomernok, Miskolc m.j. Varosi Tanacs Vegrehajto Bizottsaga Epitesi es Kozlekedesi Osztaly (for Tallo) 13. Fomernok, Kozlekedes-es Postaugyi Miniszterium Utosztalya (for-Kozary) 14. Favorosi Tanacs Vegrehajto Bizottsaga VIII. Varosrendezesi es Epiteszeti Osztalyanak vezetoje (for Szilagyi) 15. Ut-Vasuttervezo Wilalat Kozlekedesi Osztalya vezetoje (for Hegyi) 16. BUVATI Kozlekedesi es Kommuszakosztalyanak vezetoje, Budapest (for Berczik) 17. Pecs m.j. varos Tanacsa BV Epitesi es Kozlekedesi Osztalyanak vezetoje (for Marki)

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CSANADI, Cyorgy --- (Continued) Card 3. 18. Szeged m.j. Varosi Tanacs Epitesi es Kozlekedesi Osztalyanak fomernoke (for Falfi Budinszki) 19. Budapest Fovarosi Tanacs Melyepitesi Tervezo Vallalat irangito tervezoje (for Endre Nagy) 20. Debreceni Kozlekedesi Vallalat igazgatoja (for Szatmary) 21. Budapest Fovarosi Tanacs Melyepitesi Tervezo Vallalat tervezomernoke (for Magori) 22. Budapest Fovarosi Tanacs Melyepitesi Tervezo Vallalat tervezomernoke (for Csikhelyi) 23. Miskolci Kozlekedesi Vallalat fomernoke (for Meszleri) 24.Kozlekedes- es Postaugyi Miniszterium Autokozlekedesi Foosztalyanak fomernoke (for Veroszta) 25. Szegedi Kozlekedesi Vallalat fomernoke (for Zsiga) 26. Miskolci Kozlekedesi Vallalat fokonyveloje (for Torok) 27. Debreceni Kozlekedesi Vallalat fomernoke (for Koncz) 28. Penzugyminiszterium foeloadoja (for Wessely) 29. Pecsi Kozlekedesi Vallalat igazgatoja (for Szabo) 30. Epitesugyi Miniszterium Varosrendezesi Foosztalyanak mernoke (for Komoroczi) 31. Fovarosi Villamosvasut Fomernoke (for Gintl) (Continued on next card)





SUV/136-59-6-10/24

Suchkov, A.B., Borok, B.A., Yermakova, T.N., Rodnyy, M.I. and Boldina, L.D. AUTHORS:

1.17 大學有 可能的作用 可提對於數學的學科(意識時時代第一點)於於香華斯學學與數學

On the Production of Titanium by Electrolysis of Molten TITLE:

Salts, Using Soluble Anodes (Nekotoryye voprosy polucheniya titana elektrolizom rasplavlennykh sred s ispol'zovaniyem rastvorimykh anodov)

PERIODICAL: Tsvetnyye metally, 1959, Nr 6, pp 57-62 (USSR)

ABSTRACT: Any titanium compound possessing electronic

conductivity can be used as soluble anode. The authors used titanium nitrides and carbides and hydrogen-containing, oxygenous and inter-metallic

compounds of titanium, as well as titanium-base alloys for their experiments. These were carried out in a large laboratory plant with a maximum current supply of 1000 A. The electrolysis cell is shown diagrammatically in the figure, p 57 (1 - bath; 2 - lid; 3 - cell; 4 - anode lead; 5 - cathode lead; 6 - syphon). The entire apparatus was

made of stainless steel. Compact anodes, made by powder metallurgical methods were used. These were fixed into position and connected up and a mixture of

Card 1/4 dry NaCl and KCl (1:1) was charged into the bath.

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> Any residual moisture and occluded gases were removed by melting. A second (electrolytic) purification was carried out, in the course of which the electrolyte was saturated with titanium by means of an auxiliary cathode, and then electrolysis with a working cathode was carried out. All operations were carried out in a stream of dry, purified argon. All the experiments were performed at a temperature of 760°C and in each case the quantity of electricity was the same (1500 A hours). The following were analyzed: cathode powder obtained on working with the auxiliary cathode; three layers of the cathode deposit (internal, middle and outer); three layers of anode slime; the electrolyte and the removed products. The results of experiments with Ti-Fe, Ti-Al, Ti-Si and Ti-Nb alloys are shown in Table 1. At present the authors are engaged on the study of binary alloys of Ti and Ni, Ca and similar metals, and Mn. Preliminary experiments have shown that the behaviour of Ni is

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> analogous to that of Fe; Ca and like metals dissolve off the anode preferentially to titanium but are not deposited at the cathode. If Mn is present in the anode, the latter is soluble only if its oxygen content is extremely small. Dean's findings regarding the sharp drop in the solubility of titanium in the presence of oxygen have been confirmed. The results obtained for anode material containing 0.3% 02 are shown in Table 2. Preliminary experiments with multi-constituent alloys have led to the conclusion that most metals change the anodic solution process of titanium, as known for binary alloys, very little. This should enable electrolytic refining of preliminarily reduced titanium raw materials (slag and concentrates) to be used as a general method for producing titanium. In order to verify this assumption, the authors carried out a series of experiments using calcium hydride as reducing agent. The experiments were carried out in an apparatus consisting of a cylinder containing argon, and a container and lid made from stainless steel. The sinter

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obtained as the result of reduction was rapidly broken up and treated in a mixer, first with water, then with 1% HCl solution until the CaO had fully dissolved. The pulp was filtered off and the powder washed with water and alcohol, and after drying was studied chemically and metallographically. In the experiments the basic following parameters were varied: temperature, proportion of reagents, duration and fineness of mixture. It was found that reduction proceeds satisfactorily when the mixture is ground to a fineness of 0.147 mm or less. The optimum processing conditions are (a) for slag - 1100°C, 2 hours, 1.8 - 2.0 kg CaH2/kg Ti; (b) for concentrates - 1200°C, 2 hours, 2.2 - 2.4 kg CaH2/kg Ti. Thereby, 85 to 95% Ti contained in the original materials is extracted as a solid solution (see Table 4). The material thus obtained was compacted into anodes and electrolytically refined. The results of such refining of slag and concentrates are identical and are shown in Table 5. There are 5 tables and 1 figure.

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VYAL'TSEV, A.N.; KEDROV, B.M.; KONDRAT'YEVA, N.A., aspirant; RODNYY, N.I.; SHIRNOV, P.V., aspirant; CHERNAVSKIY, S.Ya., aspirant; TENIKOV, A.G., red.

[Contradictions in the development of natural science]
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1965. 351 p. (MIRA 18:9)

1. Akademiya nauk SSSR. Institut istorii yestest wznaniya i tekhniki. 2. Chlen-korrespondent AN SSSR (for Kedrov).

MODRYY, N.1., kundatehiramak

An international symposium devoted in general problems of the history of science and technology. Vest. AN SESE 34 no. 2: 112-113 F '64. (MIRA 17:5)

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